

Carbopol® Polymers in Pharmaceuticals

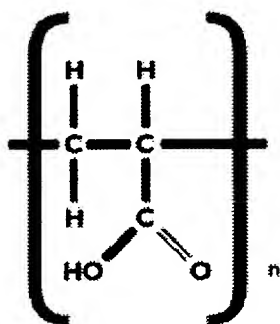
What are Carbopol Polymers:

Carbopol polymers are high molecular weight, crosslinked, acrylic acid-based polymers.

Carbopol homopolymers are polymers of acrylic acid crosslinked with allyl sucrose or allylpentaerythritol.

Carbopol copolymers are polymers of acrylic acid, modified by long chain (C10-C30) alkyl acrylates, and crosslinked with allylpentaerythritol.

Noveon's pharmaceutical resins are offered as fluffy, white, dry powders (100% effective). The carboxyl groups provided by the acrylic acid backbone of the polymer are responsible for many of the product benefits. Carbopol resins have an average equivalent weight of 76 per carboxyl group. The general structure can be illustrated with the diagram below.



Noveon's pharmaceutical resins differ in performance, but their general properties are alike.

Appearance: fluffy, white, mildly acidic powder

Bulk density: approximately 208 kg/m³ (13 lbs ft³)¹

Specific gravity: 1.41

Moisture content as shipped: 2.0% maximum

Equilibrium moisture content: 8 – 10% (at 50% relative humidity)

pK_a: 6.0 ± 0.5

pH of 1.0% water dispersion: 2.5 – 3.0

pH of 0.5% water dispersion: 2.7 – 3.5

Equivalent weight: 76 ± 4

Ash content: 0.009 ppm (average)²

Glass transition temperature: 100 – 105°C (212 – 221°F)

1. Polymers produced in cosolvent (a cyclohexane/ethyl acetate mixture) have a bulk density of 176kg/m³ (111lbs/ft³).
2. Polymers produced in ethyl acetate have an ash content (as potassium sulfate) of 1-3% on average.

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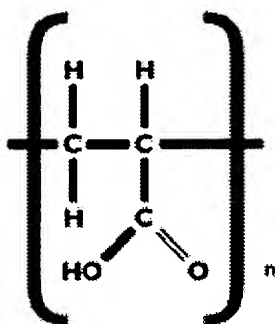
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Base FTSS du CCHST - Noveon, Inc, (Formerly B F Goodrich)

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Cette compagnie fournit ses fiches techniques sur la sécurité des substances (FTSS) au Centre canadien d'hygiène et de sécurité au travail (CCHST) pour qu'elles figurent dans nos bases de données MSDS/FTSS. Pour savoir comment vous abonner à la collection de fiches techniques du CCHST, veuillez vous adresser à notre service du Marketing, des ventes et des communications.

Le CCHST ne produit, ne vend ni ne fournit aucun produit chimique.

Toute question relative à la disponibilité ou à l'achat d'un produit quelconque doit être adressée au fabricant ou au fournisseur du produit en question.

- [CARBOPOL* 1342 Polymerique](#)
- [CARBOPOL* 1382 Polymerique](#)
- [CARBOPOL* 1623 Polymer](#)
- [CARBOPOL* 5984 Polymerique](#)
- [CARBOPOL* 846 Polymerique](#)
- [CARBOPOL* 910 Polymerique](#)
- [CARBOPOL* 934 Polymerique](#)
- [CARBOPOL* 940NF Polymerique](#)
- [CARBOPOL* 940 Polymerique](#)
- [CARBOPOL* 941 Polymerique](#)
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- [CARBOSET* CR-785 Polymer](#)
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- [CARBOTAC* 26171 Emulsion](#)
- [CURE-RITE* OBTS Accelérateur](#)
- [FREECAT* #9 Accelérateur](#)
- [FREECAT* 17 Accelérateur](#)
- [FREECAT* MX](#)
- [FREECHEM* 40DF Glyoxal](#)
- [FREEPEL* FC-30](#)
- [FREEREZ* 900](#)
- [FREEREZ* MW Resine](#)

- GOOD-RITE* K-702 Polyacrylate
- GOOD-RITE* SB-1326
- HYCAR* 1300X33 Polymerique - VTBNX
- HYCAR* 1300X8 Polymerique - CTBN
- HYCAR* 26138 Emulsion
- HYCAR* 26288 Emulsion
- HYCAR* 2679 Emulsion
- HYSTRETCH* V-43
- HYSTRETCH* V-60
- MW 2446K
- MW 2476H
- MW 2937
- MW 3355
- MW 3362
- MW 3362W
- MW C311AS1
- PEMULEN* TR-1 Emulsifiant Polymerique
- PERFORMAX* 3573
- PERFORMAX* 3578
- PERFORMAX* 3607
- PERFORMAX* 3667
- PERFORMAX* 8463
- SANCURE* 899 Polyurethane Dispersion
- SERVIPRINT* 7686-M
- SERVIPUFF* 7811
- VYCAR* 576 Emulsion
- VYCAR* 577 Emulsion
- VYCAR* 650X18 Emulsion
- VYCAR* TN-810 Emulsion
- VYCAR* VA-1022 Emulsion
- WRL 01019
- WRL 01299
- XAMA (R) 7
- ZINBURST* 905

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* F T S S *
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* Centre canadien d'hygiène et de sécurité au travail *
* * * * * (septembre 2002) *

*** IDENTIFICATION ***

NUMERO DE FICHE FTSS : 3331401
NOM(S) DU PRODUIT : CARBOPOL* 941 Polymerique
IDENTIFICATION DU PRODUIT : Product Number: CBP941
DATE DE LA FTSS : 2001-11-16
ACTUALITE : Cette FTSS a ete fournie au CCHST sous forme
electronique le 2002-07-26

*** INFORMATION DU FABRICANT ***

FABRICANT : Noveon, Inc
(Formerly B F Goodrich)
ADRESSE : 9911 Brecksville Road
Cleveland Ohio
U.S.A. 44141-3247
Telephone: 800-331-1144 216-447-5000
NUMERO(S) D'URGENCE : 800-424-9300 (CHEMTREC, 24 Hour)

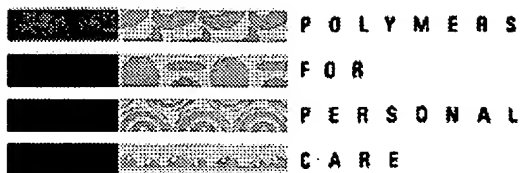
*** INFORMATION DU FOURNISSEUR/DISTRIBUTEUR ***

FOURNISSEUR/DISTRIBUTEUR : Noveon Canada Inc
(Formerly Goodrich Canada Inc)
ADRESSE : 100 Regina Street South, Suite 360
Waterloo Ontario
Canada N2J 4P9
Telephone: 519-888-3330
Fax: 519-888-3337
NUMERO(S) D'URGENCE : 613-996-6666 (CANUTEC, Transportation, Canada)
800-424-9300 (CHEMTREC, Transportation, USA)

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(il faut être abonné)

Pour savoir comment vous abonner au service CCINFOweb, communiquez avec le CCHST.



Carbopol® 934, 940, 941 Polymer Product Specifications

GENERAL

Solution Appearance: White Powder
Odor: Slightly Acetic

	% SOLUTION	MINIMUM	MAXIMUM	TEST FREQUENCY	BFG PROCEDURE NUMBER
Brookfield RVF or RVT Viscosity, cP: (20 rpm at 25° C, neutralized solutions)					
Carbopol 934	0.2%	2,050	5,450	Each Lot	430-I
	0.5%	30,500	39,400	Each Lot	
Carbopol 940	0.2%	19,000	35,000	Once/20 Lots	430-I
	0.5%	40,000	60,000	Each Lot	
	1.0%	45,000	80,000	Once/20 Lots	
Carbopol 941	0.05%	700	3,000	Once/20 Lots	430-I
	0.2%	1,950	7,000	Once/20 Lots	
	0.5%	4,000	11,000	Each Lot	
Moisture Content:	—	—	2.0%	Once/10 Lots	SA-004
Carbopol 934	—	—	2.0%	Once/10 Lots	SA-004
Carbopol 940	—	—	2.0%	Once/10 Lots	SA-004
Carbopol 941	—	—	2.0%	Once/10 Lots	SA-004
Heavy Metals: (Pb, As, Hg, Sb)	—	—	10 ppm	Once/200 Lots	SA-012
Clarity, % Transmission: (neutralized solution, 420 nM light)	0.5%	85%	—	Each Lot	485-D
Carbopol 940	—	—	0.5%	Each Lot	SA-006

Residual Benzene, %:

071797

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